

Finale brief progress report for SD0822

(Fall 2008 – Spring 2009)

Week '08	Activity	Done
29 Sep - 3 Oct	Project definition. Initial block diagram.	Ok
6 Oct - 10 Oct	Define main blocks. Collect literature. Theoretical background. Traditional approaches. Engineering application notes.	Ok
13 Oct - 17 Oct	Component definition and comparison. Datasheets.	Ok
20 Oct - 24 Oct	Schematic draft: 1 st phase. V/I limitations. P consumption. LV PS design.	Ok
27 Oct - 31 Oct	Schematic draft: 2 nd phase. Controller and peripherals design. Isolation. Noise. Protection.	Ok
3 Nov - 7 Nov	Schematic draft: 3 rd phase. Feedback blocks. Signal filters and limiters. Inverter design.	Ok
10 Nov - 14 Nov	Footprint library creation and validation. Components order.	Ok
17 Nov - 28 Nov	PCB design: 1 st phase - prototype. Basic component placement. Schematic corrections if needed.	OK
1 Dec - 10 Dec	PCB design: 2 nd phase. Route PCB. Check power planes, DRC. PCB prototype order.	OK
Rescheduled to next semester	Soldering and assembly. On-fly validation and tests.	

Week '09	Activity	Done
5 Jan - 16 Jan	Controller board components population, soldering.	Ok
19 Jan - 30 Jan	Controller board testing and troubleshooting.	Ok
2 Feb - 13 Feb	Inverter board components population, soldering.	Ok
16 Feb - 27 Feb	Inverter board testing and troubleshooting.	Ok
2 Mar - 5 Mar	Application example considered and evaluated – BLDC motor control (open and close (PID) loop).	Ok
9 Mar - 13 Mar	Schematic for application control. Demonstration requirements.	Ok
16 Mar - 31 Mar	Software design: general system overview and tasks.	Ok
1 Apr - 10 Apr	Software design: graphical library, peripheral library, GUI.	Ok
13 Apr - 17 Apr	Software design: motor-specific routines – ADC, shaft angle estimation, speed estimation and regulation, PID, phase current, voltage, temperature monitor, fault conditions.	Ok
20 Apr - 24 Apr	Testing overall system. Future features considered. Presentation discussion. Paperwork scheduled.	